

0 1 2 3 4 5 6 7 8 9

CCGGGGGAGGCTTAGGATGTTGCTCCGGGGCTCAGACGAAATCTTCTGTGAATGGAAG  
AAATGCTTCCAAGCAAACAGCCACTACCAGAACAACTGAGAAAGAGGCCAGAGCGCAGTTCTC  
AAACCTGATTCGAGGAGCCGGAGGGGATATTGGAGAGAAGGTATTCCAGTCACGCGCAG  
TAACAGACCAGCCAAGGACCAGGACTGGAGTTCTACAAACGGTGGAACAGTGAACGGTCT  
CCAAAGAGATGGAGTACGACGCTTACAACGACTCCGGCATCTATGATGATGAGTACTCTGATGG  
CTTGCTACTTGTGGACTTGGAGGAGGCGAGTCCGTGGAGGCCAAGGTGGCCCCGGTCTTC  
CTGGTGGTGATCTACAGCTGGTGTGCTCCTCGGTCTCCTAGGCAACGGCCTGGTATTGTCA  
TCGCCACCTCAAGATGAAGAAGACCGTGAACACTGTGTGGTTGTCAACCTGGCTGTGGCGA  
CTTCCTGTTCAACATCTTTGCCGATGCACATCACCTACGCCATGGACTACCAACTGGGTG  
TTCGGGAAGGCCATGTGCAAGATCAGCAACTTCTGCTCAGCCACAACATGTACACCAGCGTCT  
TCCTGCTGACTGTACAGCTTGACCGCTGCATCTCCGTGCTGCTCCCCGTCTGGTCCCAGAA  
CCACCGCAGCATCCGCCCTGGCCTACATGACCTGCTCGGCCGTGGGCTGGCTTCTTCTTG  
AGCTCCCCGTCCTGTCTTCCGGACACGCCAACATTGATGGAAAGATAACCTGCTTCAACA  
ACTTCAGCTTGGCCGCGCTGAGTCCTCCCCACATCCGCCACTCGCAAGTAGTTCCACAGG  
GTACAGCAGACACGTGGCGGTACTGTACCCGCTTGGCTTCCTGATCCCCGTCTTC  
ATCATCACGCCCTGCTACCTTACCATCGTCTTCAAGCTGCAGCGCAACGCCCTGGCCAAGAAC  
AGAAGCCCTCAAGATCATCACCATCATCACCTTCTCTGCTGGTGCCCTACCA  
CACCTCTACCTGCTGGAGCTCCACACACAGCTGTGCCAAGCTCTGCTTCAAGCCTGGGCTA  
CCCCTGGCCACGGCGTCGCCATGCCAACAGCTGCATGAACCCATTCTGTACGTCTTCATGG  
GCCACGACTTCAGAAAATTCAAGGTGGCCCTTTCTCCGCCCTGGCCAACGCCCTGAGTGAGGA  
CACAGGCCCTCCTCCTACCCAGTCACAGGAGCTCACCAAGATGTCGTCTTGAATGAGAAC  
GCTTCGGTGAATGAGAAGGAGACCAGTACCCCTCTGAACCTCACCTGGGAATGTCCCCAAAGGT  
GCCACGGCCCAGGGACGCCTAGGGACTTGTCTCCGGAAAGTGGGAGACATGCCGGAGCCTTGG  
GAATGCTCCAACGCCACTGAATTTCACAAGGCGCTCATGTTTAAGTGGGTTCCAAGT  
GTGGACACTCTCCAGTAAATGGCAGGCAAGCAACCCAGCTCTACAAACAGGAGCAGGGGAC  
CGACTGTGACTCAGAAAAGGGAGCATTCTGAAGCCAAGACTTGAGCTGTGACCAACATA  
CAGGCCAACATACACGATGTCGCCGTGCATGCCCTGAACATGCTGCGCAGTTCTGGTGGTGA  
GAAGTTACCGCAAACCCATTGCAGACCTGTTATGGCAACATGACAGTCAAACCAACAAAGCCA  
ATACACCCAACATCCTCCAAGACCTGACTTGGATTCAGAAGAACGGGGGTGGGGGAAC  
GAGGACCTGAGGGTTAATTGAGCTGGCGAAGCC (SEQ ID NO:1)

**FIGURE 1**

underlined = deleted in targeting construct

[ ] = sequence flanking Neo insert in targeting construct

CCGGGGGAGGCTTAGGATGTTGCTCCGGGGCTCAGACGAAATCTTGTGAATG  
GAAGAAATGCTTCAAGCAAACAGCCACTACCAGAACAACTGAGAAAGAGGCCAGAGCGC  
GAGTCTCAAACCTGATTCGCAGGAGCCGGAGGGGATATTGGAGAGAAGGTATTCC  
AGTCACGCGAGTAACAGACCAGCCAAGGACCAAGGACTGGAGTTCTGTTCTACAAACGGTG  
GAACAGTGAACGGTCTCAAAG [AGATGGAGTACGACGCTTACAACGACTCCGGCATCTA  
TGATGATGAGTACTCTGATGGCTTGACTTTGTGGACTTGGAGGGCGAGTCCGTG  
GGAGGCCAAGGTGGCCCGGTCTCCTGGTGTGATCTACAGCTGGTGTGCTTCCTCGG  
TC] TCCTAGGCAACGGCTGGTGTGATTCATGCCACCTCAAGATGAAGAAGACCGTGA  
ACACTGTGTGGTTGTCAACCTGGCTGTGGCGACTTCCTGTCAACATCTTTGCCGA  
TGCACATCACCTACGGCCATGGACTACCACTGGTG [TTCGGGAAGGCCATGTGCAAG  
ATCAGCAACTTCTTGTCAAGGCCACAACATGTACACCAGCGTCTCCTGCTGACTGTCACTC  
AGCTTGACCGCTGCATCTCCGTGCTGCTCCCCGTCTGGTCCCAGAACCGCAGCATC  
CGCCTGGCCTACATGACCTGCTCGGCCGTGGCTCTGGCTTCTGAGCTCCCCG  
TCCCTTGTCTCCGGACACCGCCAACATTCAATGGGAAGATAACCTGCTCAACAACTTC  
AGCTTGGCCGCGCTGAGTCTCCCCACATCCGCCACTCGCAAGTAGTTCCACAGGG  
TACAGCAGACACGTGGCGGTACTGTCACCCGCTTGTGGCTTGTGATCCCCGTC  
TTCATCATCACGGCTGCTACCTTACCATCGTCTCAAGCTGCAGCGCAACCGCCTGGC  
AAGAACAAAGGCCCTCAAGATCATCACCATCATCACCTTCTCTGCTGG  
TGCCCCCTACCAACCCCTACCTGCTGGAGCTCCACACAGCTGTGCCAAGCTGTGTC  
TTCAGCCTGGGCTACCCCTGGCACGGCCATGCCACAGCTGCATGAACCCC  
ATTCTGTACGTCTCATGGGCACGACTCAGAAAATTCAAGGTGGCCCTTTCTCCGC  
CTGGCCAACGCCCTGAGTGAGGACACAGGCC] CTCCTCTACCCAGTCACAGGAGCTT  
CACCAAGATGTCGTCTTGAATGAGAAGGCTCGGTGAATGAGAAGGAGACCAGTACCC  
CTGAACCTCACCTGGAAATGTCCCCAAAGGTGCCACGGCCAGGGACGCCACTGGACTT  
GTCTCCGGAAGTGGGAGACATGCCGGAGCCTTGGGAATGCTCCAACGCCACTGAATT  
TTGCACAAGGCAGCTCATGTTTAAGTGGGTTCCCAAGTGTGGACACTCTTCAGTAAA  
ATGGCAGGCAAGCAACCCGAGCTTCTACAACAGGAGCAGGGACCGACTGTGACTGACTC  
AGAAAAGGGAGCATTCTGAAGCCAAGACTTGAGCTGTGACCAACATACAGGCCAACATA  
CACGATGTCGCCGTGCATGCCCTGAACATGCTGCGCAGTTCTGTGGGTGAGGAAGTTAC  
CGCAAACCCATTGCAGACCTGTTATGGCAACATGACAGTCAAACCAACAAAGGCCAAC  
ACCCCAACATCCTCCAAGACCTTGACTTGGATTTCAGAAGAACGGGGTGGGGAAC  
GAGGACCTGAGGGTTAATTGAGCTTGGCGAAGCC

**FIGURE 2A**

**Gene Sequence Structure**

\*

422 bp

Sequence Deleted

576 bp

Size of full-length  
cDNA: 1892 bp

**Targeting Vector\* (genomic sequence)**

Construct Number: 993

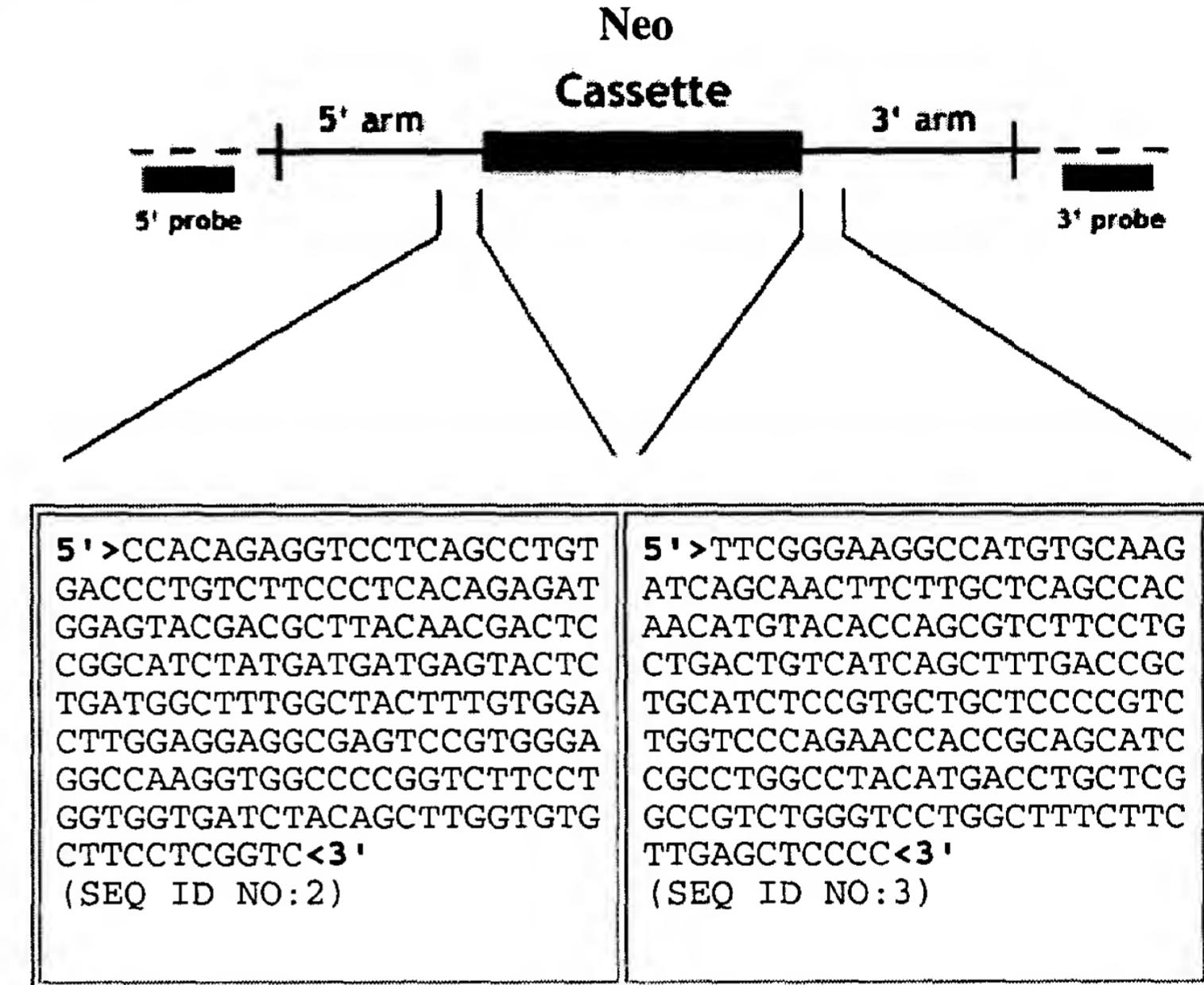
Arm Length:

5': 2.3 kb

3': 1.9 kb

— Targeting Vector  
- - - Endogenous Locus

\* Not drawn to scale



**FIGURE 2B**